

FIG. 1

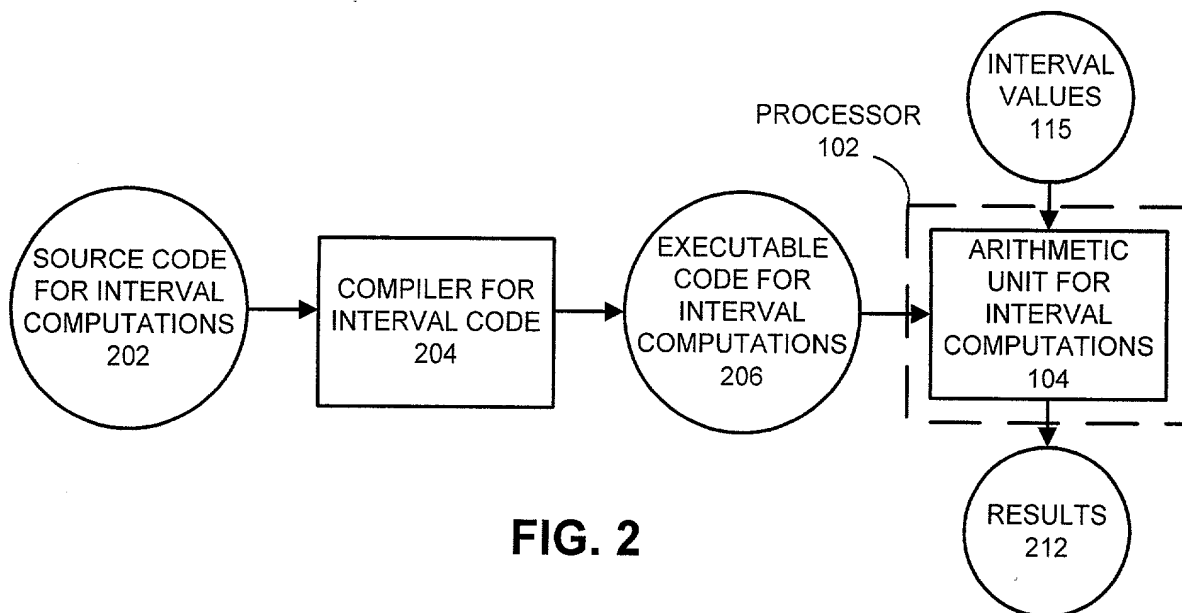


FIG. 2

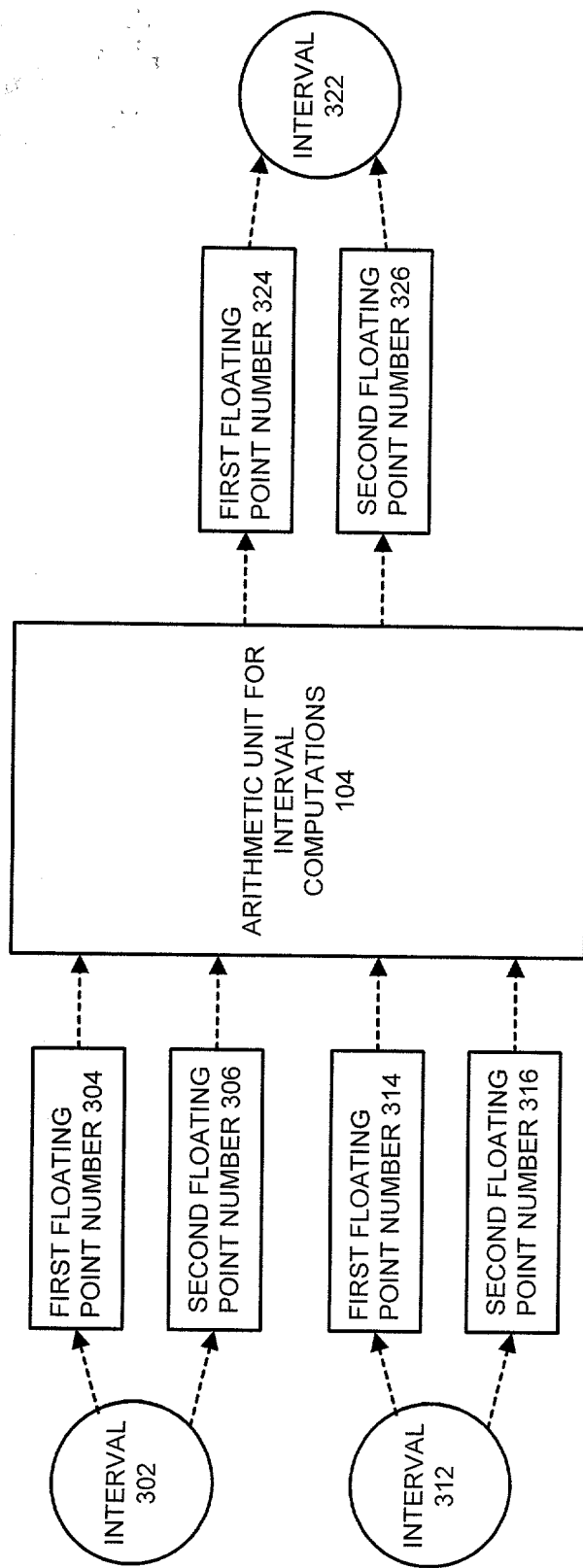


FIG. 3

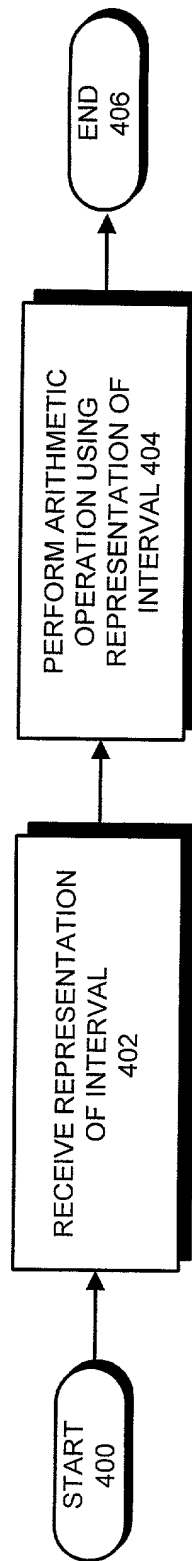


FIG. 4

$$X \equiv [\underline{x}, \bar{x}] \equiv \{x \in \mathcal{R}^* | \underline{x} \leq x \leq \bar{x}\}$$

$$Y \equiv [\underline{y}, \bar{y}] \equiv \{y \in \mathcal{R}^* | \underline{y} \leq y \leq \bar{y}\}$$

$$(1) \quad X + Y = [\downarrow \underline{x} + \underline{y}, \uparrow \bar{x} + \bar{y}]$$

$$(2) \quad X - Y = [\downarrow \underline{x} - \bar{y}, \uparrow \bar{x} - \underline{y}]$$

$$(3) \quad X \times Y = [\min(\downarrow \underline{x} \times \underline{y}, \underline{x} \times \bar{y}, \bar{x} \times \underline{y}, \bar{x} \times \bar{y}), \max(\uparrow \underline{x} \times \underline{y}, \underline{x} \times \bar{y}, \bar{x} \times \underline{y}, \bar{x} \times \bar{y})]$$

$$(4) \quad X/Y = [\min(\downarrow \underline{x}/\underline{y}, \underline{x}/\bar{y}, \bar{x}/\underline{y}, \bar{x}/\bar{y}), \max(\uparrow \underline{x}/\underline{y}, \underline{x}/\bar{y}, \bar{x}/\underline{y}, \bar{x}/\bar{y})], \text{ if } 0 \notin Y$$

$$X/Y \subseteq \mathcal{R}^*, \text{ if } 0 \in Y$$

FIG. 5

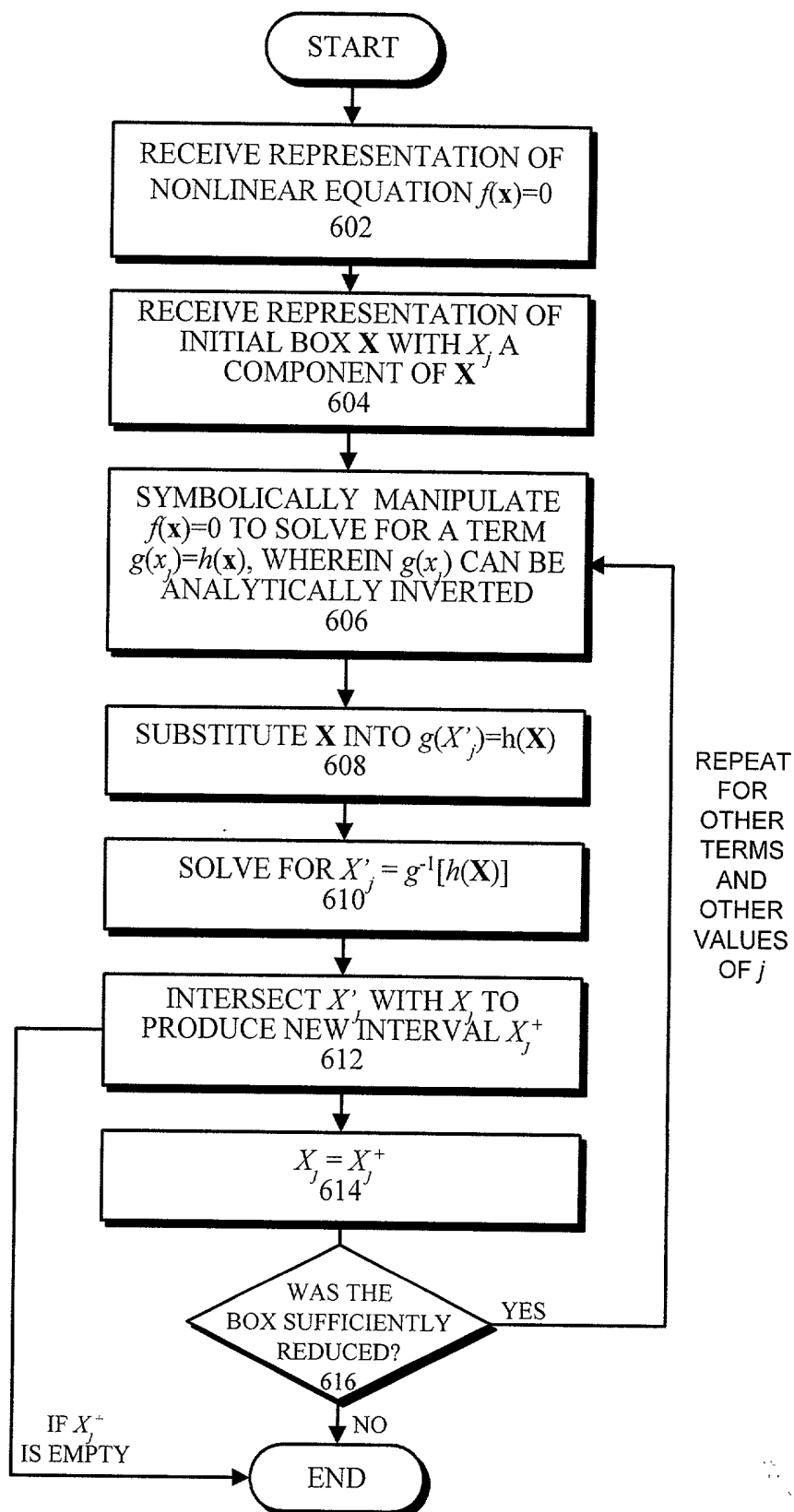


FIG. 6

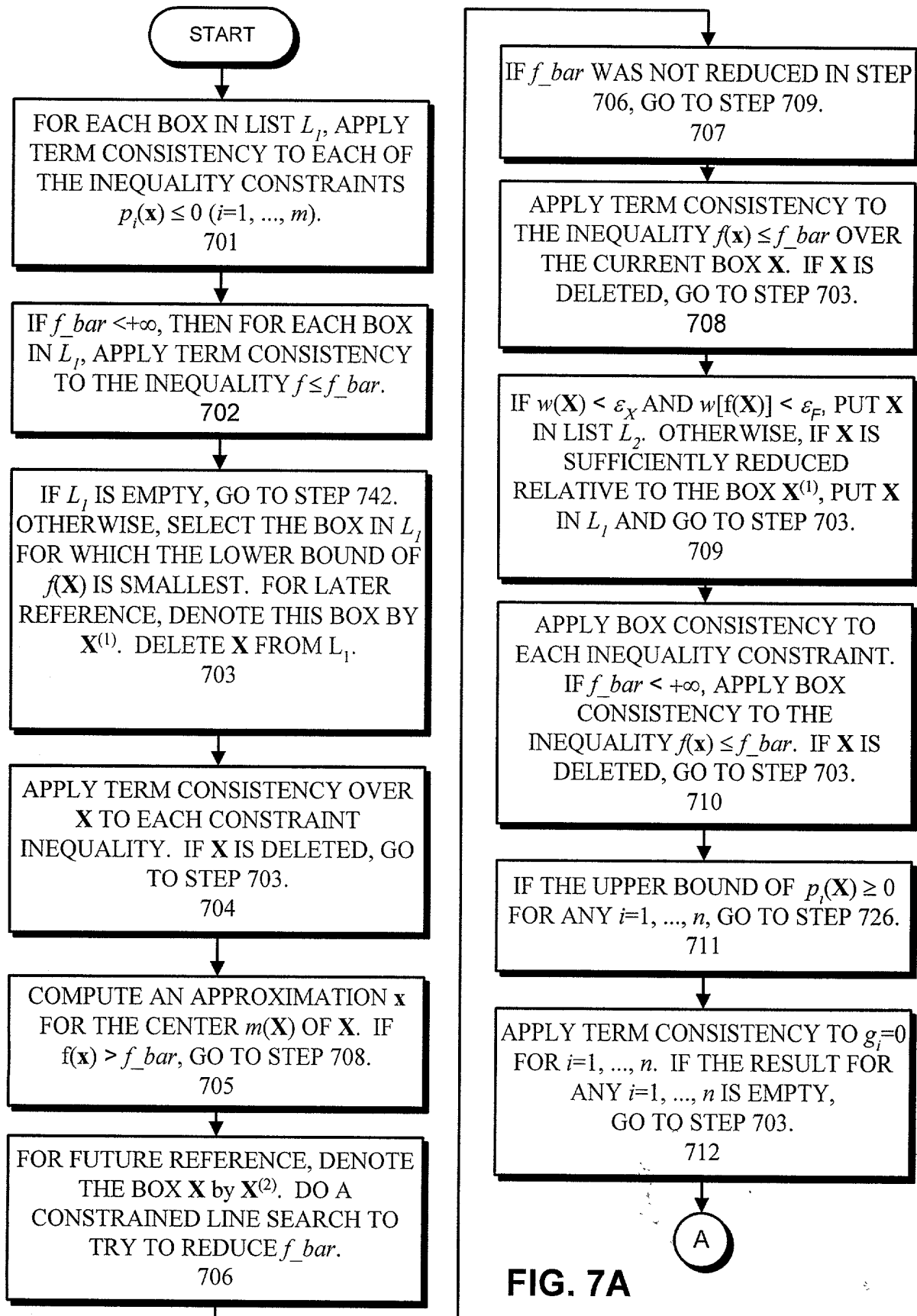


FIG. 7A

